## Report for 2002CA4B: Voluntary Compliance Versus Mandatory Sanctions: A Natural Experiment in Water Quality Regulation

There are no reported publications resulting from this project.

Report Follows:

Note: This project has been delayed, and will begin July 1, 2003 to be completed by September 30, 2003.

Coastal Northern California is home to dairy farms and other livestock operations that entail significant environmental costs. When animal wastes enter local streams, water quality is impaired in ways that can be lethal to fish and other aquatic life. Animal wastes are also implicated in the microbial contamination of local shellfish, creating a public health risk for both subsistence collectors and consumers of commercially cultivated clams and oysters. State regulators have historically pursued two alternative approaches to address these problems. The classic command-and-control approach emphasizes permitting requirements, injunctions, fines, and the threat of criminal prosecution in extreme cases. The alternative "voluntary compliance" approach emphasizes lenience for occasional or accidental violations, and asks the industry to take a leading role in monitoring and enforcing compliance. This study seeks to determine whether voluntary compliance has resulted in lax enforcement, or has actually yielded higher rates of compliance at lower cost, relative to command-and-control. To the extent that voluntary compliance is working successfully, the study identifies the most important mechanisms (education and outreach, promoting an environmental ethic, trust-building, etc.). The analysis is based on 10 years of water-quality data and an original survey of all 200 dairy and livestock producers in the study region. Recommendations are offered for improving the effectiveness and efficiency of dairy and livestock-related water quality regulation.

## **STUDENT SUPPORT (planned):**

Christal Love, undergraduate, Environmental Policy and Planning Chris Weible, graduate, Ecology, UC Davis